

**REMARKS**

Claims 1 through 15 are pending in this application. Claim 1 has been amended. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the original filed disclosure as, for example, page 33 of the written description of the specification, lines 15 through 17, as well as original claim 9. Applicants submit that the present Amendment does not generate any new matter issue.

**Claims 1 through 4 and 12 through 14 were rejected under 35 U.S.C. §103 for obviousness predicated upon Iyengar et al. in view of DiGiovanni et al.**

In the statement of the rejection, the Examiner made certain determinations as to the teachings of each of the applied references and then concluded that the claimed invention would have been obvious. This rejection is traversed.

**Insufficient Facts**

**1. The claimed optical fiber is a single-mode optical fiber.** The primary reference to Iyengar et al. does **not** relate to a single-mode optical fiber.

**2. The primary reference to Iyengar et al. is directed to a multi-mode optical fiber.** It should be apparent from column 1 of Iyengar et al., lines 15 through 17, that the disclosed optical fiber is a multi-mode optical fiber. Indeed, one having ordinary skill in the art would have recognized, "mode dispersion" is a property that does not

relate to a single-mode optical fiber as in the claimed invention. Rather, "mode dispersion" is a property that relates to a multi-mode optical fiber.

**3. Moreover, and quite significantly, Iyengar et al. teach away from the claimed invention.** Indeed, in column 1, lines 16 through 20, Iyengar et al. state:

Differential mode delay can be eliminated if a fibre is allowed to propagate only a single fundamental mode. However, this requires the fibre to have a small core diameter, making fibre splicing and connecting difficult.

Iyengar et al. goes on in that same paragraph to point out other disadvantages attendant upon single-mode fibers, such as the necessity for "lasing sources", the inability of arbitrarily increasing the diameter of the core by reducing the numerical aperture, because too small a numerical aperture requires a thick cladding for containment of the evanescent wave and also too large a radius of curvature for low bending losses.

Accordingly, one having ordinary skill in the art would have readily understood that Iyengar et al. relate to multi-mode optical fiber and clearly **teach away** from a single-mode optical fiber.

### **There is no Motivation**

Applicants do not agree that the Examiner made the requisite "thorough and searching" factual inquiry to support the conclusion that one having ordinary skill in the art would have been realistically motivated to combine the applied references as suggested. *In re Lee*, 237 F.3d 1338, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). At any rate, as Iyengar et al. do not relate to single-mode optical fiber but to a multi-mode optical fiber, even if the multi-mode optical fiber is modified in accordance with the teachings of DiGiovanni et al., **not a single-mode optical fiber as claimed.**

Accordingly, even if the applied references are combined as suggested by the Examiner, the claimed invention would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Based upon the foregoing, Applicants submit that a prima facie basis to deny patentability to the claimed invention has not been established for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, there are potent indicia of **nonobviousness** which merit consideration.

### **Indicia of Nonobviousness**

It is well settled that the problem addressed and solved by a claimed invention must be given consideration resolving the ultimate legal conclusion of obviousness under 35 U.S.C. §103. *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 28 USPQ2d 1333 (Fed. Cir. 1993); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989); *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975). As disclosed on page 3 of the written description of the specification, lines 11 through 18, the present invention addresses and solves problems of a single-mode optical fiber, such as lowering of the effective core area, increased bending loss and increased of sensitivity to the fluctuation of the structural parameters of the effective core area. Manifestly, these problems are not even blips on the radar screens of the applied references.

Another potent indicium of **nonobviousness** stems from the fact that Iyengar et al. clearly **teach away** from the claimed invention, as previously pointed out. Indeed, Iyengar et al. disclose **disadvantages** of single-mode optical fibers and then ducks

coming up with a solution thereto retreating to multi-mode optical fibers. This clear teaching away from the claimed invention constitutes potent evidence of **nonobviousness**. *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 6 USPQ2d 1601 (Fed. Cir. 1988); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); *In re Marshall*, 578 F.2d 301, 198 USPQ 344 (CCPA 1978).

### Conclusion

It should, therefore, be apparent that a *prima facie* basis to deny patentability to the claimed invention has not been established for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, even **if** the applied references are combined, the claimed single-mode optical fiber would **not** result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, *supra*. Further, upon giving due consideration to the potent indicia of **nonobviousness** stemming from the **problem** addressed and solved by the claimed invention and the **clear teaching away** from the claimed invention by Iyengar et al. The conclusion appears inescapable that one having ordinary skill in the art would **not** have found the claimed invention **as a whole** obvious within the meaning of 35 U.S.C. §103. *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984).

Applicants, therefore, submit that the imposed rejection of claims 1 through 4 and 12 through 14 under 35 U.S.C. §103 for obviousness predicated upon Iyengar et al. in view of DiGiovanni et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

**Claims 5 through 11 and 15 were rejected under 35 U.S.C. §103 for obviousness predicated upon Iyengar et al. in view of DiGiovanni et al.**

This rejection is traversed.

Firstly, claims 5 through 11 and 15 depend from independent claim 1. Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claim 1 under 35 U.S.C. §103 for obviousness predicated upon Iyengar et al. in view of DiGiovanni et al. Indeed, the claimed invention is directed to a single-mode optical fiber. The primary reference to Iyengar et al. is directed to a multi-mode optical fiber. Hence, the Examiner's proposed modification of Iyengar et al. would **not** yield the claimed invention. Further, upon giving due consideration to the **problem** addressed and solved by the claimed invention and the clear **teaching away** from the claimed invention by Iyengar et al., potent indicia of **nonobviousness**, Applicants submit that one having ordinary skill in the art would **not** have found the claimed invention **as a whole** within the meaning of 35 U.S.C. §103. *In re Piasecki, supra*.

Applicants separately argue the patentability of claims 5 through 11 and 15. Specifically, the Examiner's reliance upon "the general skill of a worker...." completely ignores recent decisions by the Court of Appeals for the Federal Circuit **requiring facts not generalizations**. *In re Lee, supra*; *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ecolochem Inc. v. Southern California Edison, Co.* 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab*, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). Indeed, as articulated by the Court of Appeals for the Federal Circuit in *Teleflex*

*Inc. v. Ficosa North America Corp.*, \_\_\_ F.3d \_\_\_, 63 USPQ2d 1374,1387 (Fed. Cir. 2002):

The showing of a motivation to combine must be clear and particular, and it must be supported by actual evidence.

Clearly, no factual evidence has been proffered to establish the requisite motivation to support the asserted obviousness of the rejected claims. Moreover, any manipulations which one having ordinary skill in the art may or may not have been motivated to conduct would relate to a multi-mode optical fiber--**not to a single-mode optical fiber as in the claimed invention.**


Applicants, therefore, submit that the imposed rejection of claims 5 through 11 and 15 under 35 U.S.C. §103 for obviousness predicated upon Iyengar et al. in view of DiGiovanni et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

It should, therefore, be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

  
Arthur J. Steiner  
Registration No. 26,106

600 13<sup>th</sup> Street, N.W.  
Washington, DC 20005-3096  
(202) 756-8000 AJS:ntb/lrd  
Facsimile: (202) 756-8087  
**Date: July 7, 2003**